

REMARKS

Applicants respectfully request reconsideration of the present application in view of the foregoing amendments and following remarks. Claims 41, 43 and 44 have been amended. Claims 1-34 and 47 have been cancelled. Claims 35-46 and 48-51 are currently pending in this application.

The Examiner rejected claim 35 under 35 U.S.C. § 112, 2nd paragraph as being indefinite, on the basis that the phrase "substantially high" is not defined by the claims or specification.

Applicants respectfully traverse this rejection. On page 5, lines 8-10 of the specification, applicants explain that the insulating material has relatively high adiabatic heating properties, namely, at 25°C, it exhibits a compression temperature change of 3-10°C per 100 MPa of pressure change. Please also see page 2, lines 17-24 of the specification which discuss the insulating material having "substantially high adiabatic heating properties," and provide examples thereof. Applicants therefore respectfully submit that the limitation in claim 35 of the insulating material, "having substantially high adiabatic heating properties" is not indefinite, given the discussion in the specification of this term.

The Examiner rejected claims 35, 40, 44-46, and 48 under 35 U.S.C. § 102(b) as being anticipated by Kazunobu (JP 6-7135). In support of the rejection, the Examiner stated that the product carrier in Kazunobu is surrounded by heat insulating material 7.

Applicants respectfully traverse this rejection. Claim 35 requires that the product carrier be insulated with a material "having substantially high adiabatic heating properties." While reference number 7 in Kazunobu appears to refer to a heat stopping container, this teaching does not suggest to use a heat insulating material having substantially high adiabatic heating properties. As a prior art reference must contain *every* limitation of a claim to anticipate it, applicants respectfully submit that claim 35, and the claims that depend therefrom, are not anticipated by Kazunobu.

Claim 44 has been amended to recite the step of "preheating the ultrahigh-pressure vessel to a first temperature that is higher than an initial temperature of the product prior

to pressurizing the product carrier." This step is not taught or suggested in Kazunobu. As such, claim 44, and the claims that depend therefrom, are not anticipated by this reference.

The Examiner rejected claims 35 and 40 under 35 U.S.C. § 102(b) as being anticipated by Yamamoto.

Applicants respectfully traverse this rejection. While Yamamoto mentions that it uses a heat-insulating vessel 9, there is no teaching or suggestion to use an insulating material having substantially high adiabatic heating properties, as required by claim 35. Furthermore, Yamamoto is concerned with the freezing and cooling of food under pressure, in a manner to overcome several shortcomings in the prior art with freezing various food products. As such, Yamamoto is not concerned with generating a temperature barrier to prevent heat transfer from the product chamber to the cooler vessel wall. There is therefore no motivation to use an insulating material having substantially high adiabatic heating properties, as taught in the present application. Claim 35, and the claims that depend therefrom, are therefore not anticipated by this reference.

The Examiner rejected claims 36-39, 41-43 and 47 under 35 U.S.C. § 103(a) as being unpatentable over Kazunobu in view of Yutaka.

Claims 36-39 are patentable as being dependent from claim 35, for the reasons discussed above. Furthermore, Yutaka simply teaches to provide a pressure vessel and pressure medium tank in a freezer to reduce the cooling area and save energy, and to reduce energy loss that occurs in the piping when the pressure medium is delivered to the pressure vessel. Yutaka is not concerned with, and does not consider, heating a pressure vessel and pressure media to a *selected* temperature, as recited in claim 36, nor does it consider, teach or suggest that the vessel should be preheated to a first temperature that is higher than an initial temperature of the product prior to pressurizing the product carrier, as recited in claim 38. Furthermore, since there is no discussion of adiabatic heating in the cited reference, there is no teaching or suggestion to heat the pressure vessel to a temperature selected to be equal to the expected temperature of the product when pressurized, as recited in claim 39. Claims 36, 38 and 39 are therefore patentable over the cited reference.

With respect to claim 37, applicants disagree that the phrase "as it is moved from a preheated apparatus to the ultrahigh-pressure vessel" is merely an intended use of the device. However, claim 37 is patentable as being dependent on claim 35.

Claim 41 has been amended to recite the step of preheating an ultrahigh-pressure vessel to a selected temperature that is higher than an initial temperature of the product prior to pressurizing the product carrier. Claim 43 has been amended to recite that the pressure vessel is preheated to a temperature that is equal to the expected temperature of the product when pressurized. As discussed above with respect to claims 38 and 39, these steps are not taught or suggested by Yutaka and there would be no motivation to do so, given that Yutaka is directed to placing a pressure vessel and pressure medium tank in a freezer to reduce a cooling area and save energy. Yutaka does not contemplate or teach to consider the adiabatic temperature rise of a product that will occur when pressurized, and to match the temperature of the pressure vessel to such expected temperature of the product. Claims 41-43, and claim 44 which has been amended to recite a similar limitation, are therefore patentable over the cited references.


Finally, the Examiner rejected claims 49-51 under 35 U.S.C. § 103(a) as being unpatentable over Kazunobu in view of Yutaka and Kazuo. In support of this rejection, the Examiner states that Yutaka discloses a temperature control chamber that keeps the product chamber and pressure medium at a preselected temperature, citing column 3, line 53 to column 4, line 8 of Yutaka for this proposition. Applicants respectfully disagree. As discussed above, Yutaka merely teaches to place a pressure vessel and pressure medium tank in a freezer given that doing so reduces an area which must be cooled, which thereby results in energy savings. See column 3, line 53 to column 4, line 8 of Yutaka. There is no teaching or suggestion to precisely control the temperature of the product, pressure vessel or pressure media. In contrast, claim 49 recites the step of preheating the product, ultrahigh-pressure vessel and a volume of pressure media *to a selected temperature*. While such a teaching improves the efficacy of the present invention, it has no benefit to the system in Yutaka. Claims 49-51 are therefore patentable over the cited references.

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In view of the above, applicants respectfully submit that the application, as amended, is in condition for allowance. If questions remain, the Examiner is invited to contact the undersigned at the telephone number listed below.

The Director is authorized to charge any additional fees due by way of this Amendment, or credit any overpayment, to our Deposit Account No. 19-1090.

Respectfully submitted,  
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